

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

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Sub C1
1. (Currently Amended) A metallic seal comprising:
- a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface;
- a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first axial direction, and lying in a second plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface; and
- an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said ~~third~~ annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile.

2. (Original) The metallic seal according to claim 1, wherein
said first and second directions of said first and second sealing surfaces are arranged
substantially parallel to said center longitudinal axis.

3. (Original) The metallic seal according to claim 1, wherein
said first and second directions of said first and second sealing surfaces are arranged
to face substantially radially relative to said center longitudinal axis.

63 4. (Currently Amended) A ~~The metallic seal according to claim 1, wherein~~
comprising:

a first annular end section having a first annular sealing surface facing in a first
direction and lying in a first contact plane to contact a first member for creating a first
annular sealing dam therebetween, said first annular sealing surface being formed on a
convexly curved surface;

a second annular end section having a second annular sealing surface facing in a
second direction that is opposite to said first direction, and lying in a second plane that is
substantially parallel to said first contact plane to contact a second member for creating a
second annular sealing dam therebetween, said second annular sealing surface being formed
on a convexly curved surface; and

an annular center section extending between said first and second annular end sections
to form a ring having a central passageway with a center longitudinal axis, said annular center
section being frustoconically shaped with said first and second annular end sections being
contiguously arranged at opposite ends of said annular center section such that sealing loads
applied substantially perpendicularly on said first and second annular sealing surfaces

b3 primarily deform due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile,

said first and second sealing surfaces are being spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

5. (Cancelled).

b4 6. (Currently Amended) The metallic seal according to claim 5 1, wherein said convexly curved surfaces extend through an arc of about 60°.

7. (Original) The metallic seal according to claim 6, wherein said annular center section has a slope of about 45° with respect to said center longitudinal axis.

b5 8. (Currently Amended) A ~~The metallic seal according to claim 7, wherein~~ comprising:

a first annular end section having a first annular sealing surface facing in a first axial direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second axial direction that is opposite to said first axial direction, and lying in a second plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at location that is spaced from a second free end of said second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said opposite ends of said annular center section and said first and second free ends, respectively,

said first and second directions contact planes of said first and second sealing surfaces are being arranged substantially parallel perpendicular to said center longitudinal axis.

9. (Original) (Currently Amended) A The metallic seal according to claim 7, wherein comprising:

a first annular end section having a first annular sealing surface facing in a first radial direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first

B5 convexly curved surface at location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second radial direction that is opposite to said first direction, and lying in a second plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at location that is spaced from a second free end of said second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said opposite ends of said annular center section and said first and second free ends, respectively,

said first and second directions contact planes of said first and second sealing surfaces are being arranged substantially radially relative parallel to said center longitudinal axis.

10. (Original) The metallic seal according to claim 7, wherein
said first and second sealing surfaces are spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance

measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

11. (Original) The metallic seal according to claim 1, wherein said annular center section has a slope of about 45° with respect to said center longitudinal axis.
12. (Original) The metallic seal according to claim 1, wherein said seal is formed of a corrosion resistant alloy.
13. (Original) The metallic seal according to claim 1, wherein said seal is formed of a material selected from the group of nickel based alloys, copper based alloys, tin, aluminum based alloys and stainless steel.
14. (Original) The metallic seal according to claim 1, wherein said first and second annular end sections have substantially identical cross sectional profiles that are inverted.

/ 15. (Cancelled).

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16. (Currently Amended) The metallic seal according to claim ~~15~~ 6, wherein said convexly curved surfaces extend from a free end of said seal to said annular center section.

17. (Original) The metallic seal according to claim 16, wherein
said annular center section has a slope of about 45° with respect to said center
longitudinal axis.

b7 18. (Currently Amended) The metallic seal according to claim 17, wherein
~~said arcs of~~ said convexly curved surfaces extend about 60°.

19. (Currently Amended) The metallic seal according to claim 17, wherein
said ~~third~~ annular center section has a straight cross-sectional profile.

Please add new claims 20-23 as follows.

b4 20. (New) A metallic seal comprising:
a first annular end section having a first annular sealing surface facing in a first
direction and lying in a first contact plane to contact a first member for creating a first
annular sealing dam therebetween, said first annular sealing surface being formed on a first
convexly curved surface at location that is spaced from a first free end of said first annular
end section;
a second annular end section having a second annular sealing surface facing in a
second direction that is opposite to said first direction, and lying in a second plane that is
substantially parallel to said first contact plane to contact a second member for creating a
second annular sealing dam therebetween, said second annular sealing surface being formed
on a second convexly curved surface at location that is spaced from a second free end of said
second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said first and second free ends, respectively.

21. (New) The metallic seal according to claim 20, wherein each of said first and second convexly curved surfaces extends through an arc of about 60°.

22. (New) The metallic seal according to claim 20, wherein said annular center section has a slope of about 45° with respect to said center longitudinal axis.

23. (New) The metallic seal according to claim 20, wherein said first and second sealing surfaces are spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.